

REMARKS

The specification has been amended to correct typographical errors regarding the reference number describing the semi-transparent layer. The layer is correctly labeled 122 in Figure 1. Further support for the amendments is found on page 8, lines 4-5 of the specification.

I. Rejection of claims 1-10, 12-18, and 20-23 under 35 USC 103(a) over Celii et al. (U.S. 6,279,979) in view of Lu et al. (U.S. 5,764,324) and Pichler (WO 98/10621)

Applicants' respectfully traverse the rejection and offers the following discussion in support thereof.

The Examiner states that Celii discloses "an anode comprising a semi-transparent layer made of ITO" and "Lu et al. discloses ITO has the work function of 4.7 eV." Further, "Celii et al. disclose a dielectric layer as a reflector layer, but do not disclose the layer has a reflectivity of at least 86%" and that "Lu et al. discloses inserting a reflecting silver layer underneath the ITO layer" and that "Lu et al. teach the reflective layer controls the amount of light transmitted and voltage supplied." The Examiner concluded "it would be obvious to one skilled in the art to modify Celii's device with the teaching of Lu et al. to provide a highly reflective metal layer in order to save operating voltage. The metal reflective layer is a total reflector and has more than 86% reflectivity." In addition, moving to the Examiner's comments on the cathode, the Examiner states that "it would have been obvious to one with ordinary skill . . . to modify Celii's device with the teachings of Pichler to provide a second cathode layer . . ."

Celii teaches a light emitting diode with dielectric barriers at both the anode-organic and cathode-organic interfaces. The object of Celii's dielectric barriers is to increase carrier injection efficiency and increase overall OLED efficiency plus lower voltage operations. To accomplish the object, Celii's invention focuses on such dielectric barriers. Celii neither suggests or motivates one skilled in the art to alter its anode or cathode structures. As the Examiner pointed out, Celii's anode is a semi-transparent layer made of ITO. Celii teaches altering the anode by depositing a thick LiF layer thereon. The LiF layer is one of the dielectric layers which increases carrier injection efficiency and increases overall OLED efficiency. Celii fails to teach any alteration, such as adding a highly reflective layer to the anode structure as suggested by Applicants' invention. Accordingly, Celii's cathode is an aluminum layer. There is no motivation to direct one skilled in the art to add a second cathode having a high reflectivity and a high work function. The Examiner merely uses hindsight to make that assumption. In this case, the Examiner has not provided any viable teaching in Celii which points to or in any manner suggests the anode or cathode structures should be modified. "Obviousness cannot be established by combining the teachings of the

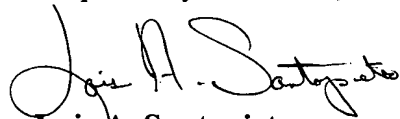
prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teaching of references can be combined only if there is some suggestion or incentive to do so." ACS Hospital Systems, Inc. v. Montefiore Hospital 221 USPQ 933 (Fed. Cir. 1984) Therefore, Applicants' respectfully request the Examiner to withdraw this rejection.

II. Rejection of claims 19 and 24 under 35 USC 103(a) over Celi et al. (U.S 6,274,979) modified by Pichler (WO 98/10621) as applied to claim 1 above and further in view of Lu et al. (U.S. 5,844,363)

This rejection is respectfully traversed by all arguments found above. Applicants respectfully request the Examiner to withdraw this rejection.

Applicants respectfully request the Examiner to reconsider and allow all the pending claims.

Respectfully submitted,



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